

# Site Remediation

## Background

In the late 1970s and early 1980s, growing public support for a coordinated cleanup effort and pioneering state and federal laws enabled DEP to establish a progressive program to address New Jersey's many contaminated sites. Beginning with the passage of the New Jersey Spill Compensation and Control Act in 1976, the State initiated the first program in the country for the cleanup of contaminated sites that posed a danger to human health and the environment.

Following New Jersey's lead, the federal government enacted in 1980 the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), a program to provide financial aid and technical guidance in cleaning up the nation's more serious contaminated sites. This program, more commonly known as Superfund, was strengthened in 1986 by the Superfund Amendments and Reauthorization Act (SARA).

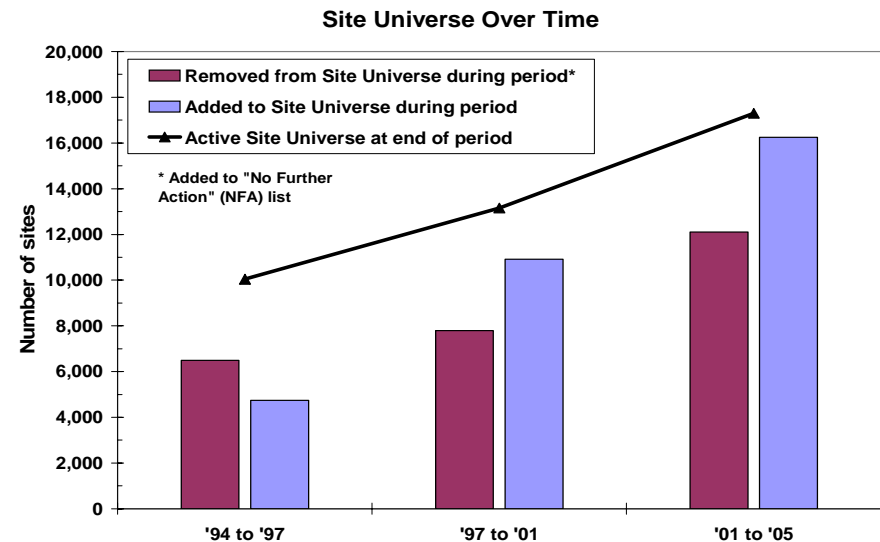
The universe of potentially contaminated sites in New Jersey has continued to increase from an original inventory of about 1,200 sites. In response, DEP has expanded its cleanup efforts to meet the challenges posed by a variety of pollution problems. The passage of several key state laws facilitated these endeavors, including the Environmental Cleanup Responsibility Act (later replaced by the Industrial Site Recovery Act) and the Underground Storage Tank Act. Also, a Voluntary Cleanup Program started in 1993 facilitates cleanup of contaminated sites, including many brownfield projects, by private parties and municipalities under Site Remediation and Waste Management Program oversight. The Brownfield and Contaminated Site Remediation Act of 1998 further refined the overall remedial process and stimulated cleanup and reuse of additional brownfield sites.<sup>1</sup>

Remediation of a contaminated site includes identifying the source, nature and extent of contamination at a site, and, if necessary, conducting appropriate cleanup work. Remediation addresses a wide variety of contaminated sites, ranging from leaking underground home heating oil tanks to large abandoned industrial sites with widespread contamination of the environment. Remedial actions can involve removing the source of contamination and decontaminating soil and water, protecting human and ecological health, and allowing the site to once again be

put to productive use. Often, the remediation involves capping the contaminated area, restricting future use for that property, or both. New Jersey's program has become a national model, and serious efforts are now ongoing to reverse decades of industrial, commercial and household waste mismanagement that has resulted in discharges of hazardous substances into the environment.

## Status and Trends

In 1994, DEP had identified approximately 12,000 active contaminated sites in New Jersey. Active contaminated sites are contaminated or potentially contaminated sites known to the Department, which may call for further action. By 2005, the number of active sites identified by the DEP, comprising both contaminated sites and those with unconfirmed contamination, was over 17,000. This increase in contaminated sites can be attributed to a number of factors, including increasing population, a growing industrial base that relies on a number of hazardous materials, an increased awareness of the risk posed by certain chemicals, and technology that is able to detect these chemicals. During this period, the rate of cleanups and determinations that no cleanup is necessary also increased. (See Figure, Sites Universe Over Time). Many of the identified sites have required only assessments or investigations, not actual cleanups.



Sites fall into a number of categories. One important category includes industrial sites and former industrial sites. Another category includes underground storage tanks (USTs). New Jersey has two distinct groupings of USTs, regulated and unregulated. Regulated tanks, for example, include those storing gasoline at service stations and large commercial chemical and heating oil tanks. Examples of unregulated tanks include underground tanks that store heating oil for residential use.

Regulated USTs are subject to management standards including construction, operations, leak detection, maintenance, closure and remediation. Tank closure includes all the steps to properly take a tank out of service, while remediation refers to the steps taken to cleanup a discharge from a tank. The UST regulations also included deadlines for upgrading or closing substandard USTs. As the regulated entities met those deadlines, the net affect has been fewer USTs in the ground. More than 55,000 USTs at about 22,000 locations have been closed in New Jersey as of 2002. This represents a significant reduction in the number of substandard USTs, and therefore a decreased risk from leaking tanks. While closure of tanks is important for preventing discharges, cleanup at locations where discharges have occurred is also an important measure. Since 2002, approximately 500 cleanups have been completed and approximately 4,000 additional cleanups are underway.

Currently, there are approximately 7,700 facilities in New Jersey with regulated UST systems, and approximately 21,000 individual tanks at those facilities. DEP has recently implemented a \$2 million initiative through the Compliance and Enforcement Program aimed at inspecting these active tanks on a three-year cycle to prevent future discharges, to hasten response to potential releases, and to promote operational compliance with the State's UST rules.

For unregulated tanks, New Jersey requires homeowners to take prompt action to minimize risks of ground water contamination whenever there is a known leak from a tank. Since 2002, cleanups for approximately 2,100 unregulated leaks have been completed and approximately 2,500 more cleanups are underway.

## Outlook and Implications

DEP's Site Remediation and Waste Management Program faces numerous opportunities for achieving environmental protection and process improvement in the near future. In 2004 Site Remediation completed its first "Place-Based" Initiative focused on the Raritan River watershed. Through this initiative, the Department required specific cleanup work by responsible parties at six contaminated sites with continuing sources of contamination along the river's lower section. Responsible parties were given strict timeframes to address immediate and longer term remedies and were put on notice that there will be aggressive follow up on requirements. Owing to the success of this project, the Department has begun two more of these initiatives for 2005. Through this effort, staff and managers are taking a closer look and raising the priority of several sites with continuing impacts to a watershed, community, river, or other "place", with the end goal of eliminating or decreasing the impact from contamination upon that place.

The Department also recognizes that time is money to brownfield developers. Because of this, in September 2003, Commissioner Campbell announced the Cleanup Star Program, which pre-qualifies environmental professionals who meet rigorous education and experience requirements to certify the investigation of contaminated sites and perform the cleanup with limited DEP oversight. Parties with minimal remediation obligations, such as homeowners and brownfield developers, can hire any Cleanup Star. This program allows less contaminated properties, which may be crucial to the revitalization of a community, to go through DEP's process in an expedited manner. To date, there are over 300 professionals pre-qualified through Cleanup Star representing over 125 environmental consulting firms.

In addition, DEP has also endorsed the use of the Triad Approach for Site Characterization, an innovative approach to investigating contaminated properties. The process, developed by the EPA, compresses the site characterization process, reduces uncertainty, and has been demonstrated to improve the effectiveness of cleanups and at the same time save time and reduce overall cleanup costs. Several cleanups employing this approach have been completed or are under way. DEP is the first and only state environmental agency to endorse the approach.

Another development, the Grace Period Rule, which is expected to be proposed within the year, will lead to more consistency in enforcing environmental regulations providing a greater incentive for compliance. Increased compliance with the regulations will expedite the cleanup of sites. The Soil Cleanup Standards, to be proposed in 2005, will codify the scientific basis for the cleanup numbers DEP requires of remediating parties. These standards, when used with the Technical Requirements for Site Remediation, will result in more predictable cleanup requirements for the regulated community while ensuring protection of public health and the environment. DEP is also finalizing a Public Participation model with input from local government, environmental groups, and other interested parties to improve outreach to communities during site remediation. Upon approval through all levels of management, this will be implemented accordingly.

Site Remediation looks forward to the successful implementation of these initiatives to address ongoing challenges as well as keeping us on the forefront of environmental regulation.

### ***More Information***

<http://www.nj.gov/dep/srp/index.htm>

<http://www.epa.gov/swrust1/>

<http://www.epa.gov/superfund/index.htm>

### ***References***

<sup>1</sup> Publicly Funded Cleanups Site Status Report 2001